



STATE MINING AND GEOLOGY BOARD

EXECUTIVE OFFICER'S REPORT



ARNOLD
SCHWARZENEGGER
GOVERNOR

For Meeting Date: February 11, 2010

Agenda Item No. 5: Considerations Following Review of the Proposed Amended Reclamation Plan for Richmond (Chevron) Quarry (California Mine ID # 91-07-0006), Dutra Materials (Operator), Mr. Brian Peer (Agent), City of Richmond.

INTRODUCTION: The State Mining and Geology Board (SMGB) is the lead agency for all surface mine operations in the City of Richmond that are subject to the Surface Mining and Reclamation Act (SMARA, Public Resources Code (PRC) Section 2710 et seq.). The Richmond (Chevron) Quarry is located in the City of Richmond, and encompasses approximately 126 acres and includes a processing and recycling plant, significant volumes of imported stockpiles of concrete demolition and construction debris, and asphalt and soil, which is used for reuse and recycling. In response to the need to evaluate the overall stability of an existing cut slope, geotechnical studies have been performed by both Dutra Materials (Operator) and the Chevron Energy and Technology Company (subject property and adjacent property landowner). At its July 9, 2009, regular business meeting, the SMGB moved to accept the operators proposed setback, monitoring and maintenance slope reclamation alternative (Alternative 5), and directed the operator to prepare an amended reclamation plan describing how the existing cut slope will be reclaimed to a stable condition with a factor of safety appropriate for the proposed end use, and to adjust the financial assurance, as appropriate. An amended reclamation plan, dated November 6, 2009, has been submitted and subsequently reviewed by Department of Conservation (DOC) Office of Mine Reclamation (OMR) and SMGB staff. Following review of the amended reclamation plan, several significant issues remain which the SMGB will be considering.

REGULATORY AUTHORITY: In regards to cut slopes, including final highwalls and quarry faces, performance standards provided in the SMGB's regulations, California Code of Regulations (CCR) Section 3704(f) state:

"Cut slopes, including final highwalls and quarry faces, shall have a minimum slope stability factor of safety that is suitable for the proposed end use and conform with the surrounding topography and/or approved end use."

CCR Section 3502(b)(3) states, in part:

"The designed steepness and proposed treatment of the mined lands' final slopes shall take into consideration the physical properties of the slope material, its probable maximum water content, landscaping



Executive Officer's Report

requirements, and other factors. In all cases, reclamation plans shall specify slope angles flatter than the critical gradient for the type of material involved.”

CCR Section 3501 defines Critical Gradient as:

“The maximum stable inclination of an unsupported slope under the most adverse conditions that it will likely experience, as determined by current engineering technology.”

CCR Section 3700(b) states:

“Where an applicant demonstrates to the satisfaction of the lead agency that an exception to the standards specified in this article is necessary based upon the approved end use, the lead agency may approve a different standard for inclusion in the approved reclamation plan. Where the lead agency allows such an exception, the approved reclamation plan shall specify verifiable, site-specific standards for reclamation. The lead agency may set standards which are more stringent than the standards set forth in this Article; however, in no case may the lead agency approve a reclamation plan which sets any standard which is less stringent than the comparable standard specified in this Article.”

BACKGROUND: The Richmond (Chevron) Quarry is located in the City of Richmond, and encompasses approximately 126 acres. The site is characterized by a flat quarry floor, a hide wall constructed from fill material, and quarry cut slopes with vertical dimensions of up to approximately 350 feet.

Surface mining operations include a processing and recycling plant, significant volumes of imported stockpiles of landscape and construction debris, and imported concrete and asphalt material and soil, which is reprocessed on site and recycled. A chronology of past administrative and enforcement actions set forth by the SMGB is summarized in Table 1.

TABLE 1	
CHRONOLOGY OF ADMINISTRATIVE AND ENFORCEMENT ACTIONS	
Date	Action
November 17, 2004	SMARA mine inspection performed by SMGB.
October 24, 2005	SMARA mine inspection performed by SMGB.
December 12, 2005	Notice of Violation issued by SMGB.
March 14, 2006	Order to Comply issued by SMGB.
September 14, 2006	Administrative Penalty of \$10,000 issued by SMGB.
November 9, 2006	Additional Administrative Penalty of \$90,000 issued by SMGB.
December 28, 2006	SMARA mine inspection performed by SMGB.
February 8, 2007	Administrative Penalty of \$90,000 deferred by SMGB.
June 17, 2007	SMGB forwarded matter to Geohazards Committee, prior to considering action on the proposed reclamation plan and financial assurance amount.
September 7, 2007	Geohazards Committee commenced discussions.
December 6, 2007	SMARA mine inspection performed by SMGB.
January 9, 2008	Geohazards Committee continued discussions and held meetings on January 9, March 9, May 8 and July 10, 2008.
October 16, 2008	SMARA mine inspection performed by SMGB.
February 5, 2009	SMGB approved interim financial assurance of \$1.7 million.
July 9, 2009	SMGB moves to accept proposed Alternative 5 and directs operator to provide amended Reclamation Plan and revised financial assurance cost estimate.
December 22, 2009	SMARA mine inspection performed by SMGB.

Previous Submittals: In addition to previously submitted geotechnical reports for the subject site, as discussed in the May 8, 2008, and July 10, 2008 Executive Officer's Reports, OMR and SMGB staff reviewed the following reports and letters in preparation for the SMGBs July 9, 2009 regular business meeting:

- a) *"Analysis of Slope Mitigation Alternatives, Richmond Quarry, Richmond California,"* prepared for Dutra Materials by ENGEO Incorporated, dated November 24, 2008, and received November 26, 2008.
- b) *"Richmond Quarry: Joint MMI-ENGEO Commentary on SMGB Executive Officer's Reports Regarding Analyses of Chevron Tank 1799,"* letter to the SMGB and OMR prepared by MMI Engineering, Inc., dated December 4, 2008, and received January 12, 2009.
- c) *"Quarry Floor End Use Evaluation, Rockfall Hazard Analysis, Richmond Quarry, Richmond, California,"* prepared for Chevron Energy and Technology Company by MMI Engineering, Inc., dated December 8, 2008, and received January 13, 2009.

- d) *“Peer Review, Geologic/Geotechnical Documentation, Quarry Slope and Portion of Main Tank Field, Richmond, California,”* letter to SMGB prepared by URS Corporation, dated December 10, 2008, and received January 15, 2009.

Subsequently, OMR and SMGB staff received and has reviewed the following documents pertaining to the subject site:

- a) Letter correspondence from Christopher Locke, attorney with Farella, Braun and Martel, LLP and legal counsel representing Dutra Materials, Inc., with enclosures, dated July 1, 2009.
- b) Letter correspondence from Mark Harrison, attorney with Diepenbrock Harrison and legal counsel representing Chevron Products Company, with exhibits, dated July 8, 2009.
- c) Letter correspondence from Richard Mitchell, Director of Planning and Building Services with the City of Richmond, dated July 21, 2009.
- d) *“Amendment to Reclamation Plan, Dutra Materials, Inc., Richmond (Chevron) Quarry), CA Mine #91-07-0006,”* prepared by LSA Associates, Inc., dated November 6, 2009.

Operator’s Proposed Mitigation Alternatives: The Geohazards Committee reviewed multiple geotechnical documents and held meetings to discuss geotechnical issues associated with the subject site on September 7, 2007, and January 9, March 9, May 8 and July 10, 2008. In April of 2008 SMGB staff requested a summary of proposed mitigation alternatives, which was subsequently provided in ENGEO’s report titled: *“Discussion of Conceptual Slope Mitigation Options,”* dated April 24, 2008. This report provided more information on the conceptual slope mitigation options previously presented in ENGEO’s October 18, 2007 report, and provided preliminary estimates of construction quantities, costs, and impacts for each alternative, which collectively were meant to represent a range of typical mitigation measures for stabilization of rock slopes.

The discussion of each alternative relied on an approach of comparing “conceptual advantages,” “conceptual impacts,” and estimated costs to make conclusions about the feasibility of a particular measure. Table 5 of their report summarized the results of this exercise with the following options discussed:

Alternative 1 – Imported Fill Buttress

Alternative 2 – Ridge Cut\Fill Buttress Balanced on Site

Alternative 3 – Cut/Fill Buttress Balanced on Site with Retained Slope

Alternative 4 – Structural Slope Stabilization

Alternative 5 – Slope Setback, Monitoring, and Maintenance

Alternative 5 was the least costly by an order of magnitude, and ENGEO and Dutra also favored this alternative because it presumably would have the least impact on the environment and infrastructure of the mine site and surrounding area. In fact, ENGEO's report indicated that Alternative 5 would have no impacts. However, the report did not carefully and adequately consider all advantages and impacts of each mitigation alternative.

The April 24, 2008 discussion of the preferred alternative as presented by ENGEO was framed as a preliminary assessment of possible alternatives for consideration, but was considered inadequate for conduct of a comprehensive analysis of mitigation alternatives. Essentially, the approach proposed was to conduct ongoing monitoring while leaving an unstable slope that would continue to fail and potentially degrade into an eyesore and hazard to the public and the environment. The approach also only focused on the next movement and did not consider the long-term effects on the slope and the safety of nearby petroleum storage tanks. The assessed feasibility of each alternative did not recognize the importance of the requirements of SMARA, which states that final mined slopes should be stable and properly revegetated. Stable slopes and successful revegetation were noted as conceptual advantages for Alternatives 1 through 4, but these advantages were downplayed in the discussion by narrowly interpreting that the end use would be industrial for the entire site. The industrial end use and appropriate SMGB-defined factor of safety were used to inflate the stated impacts and estimated costs for Alternatives 1 through 4 rather than providing other, possibly more practical solutions to the problem.

Based on the above considerations, at their May 8, 2008 meeting, the Committee requested that additional evaluation and reconsideration of potential slope mitigation alternatives be presented which meet the requirements of SMARA and the SMGBs regulations. At the Committee's July 10, 2008, meeting, the operator indicated that their consultant had not completed their re-evaluation of the cut slope. It was recommended by the Executive Officer that this matter be deferred and rescheduled for the Committee's upcoming September 2008 meeting. After an additional time extension was granted in order to complete further slope stability analysis by both the operator and the landowner, and for each to conduct peer reviews, a revised report prepared by ENGEO titled "*Analysis of Slope Mitigation Alternatives, Richmond Quarry, Richmond, California*", dated November 24, 2008, was received by the SMGB on November 26, 2008.



At its February 5, 2009, meeting, the Committee considered the Alternatives presented and unanimously moved to recommend approval of Alternative No. 5 to the whole SMGB, albeit, the Committee also requested that trench logs be provided with the assumption that trench logs prepared at the time the trenches were excavated were completed, and results obtained would clearly and definitively support conclusions set forth by the operator's consultants.

Operator's Mitigation Alternatives and Conclusions: ENGEO's November 24, 2008, report described the following slope mitigation alternatives to address the stability of the failed cut slope:

- Alternative 1 – Imported Fill Buttress
- Alternative 2 – Ridge Cut\Fill Buttress Balanced on Site
- Alternative 3 – Cut\Fill Buttress Balanced on Site with Retained Slope
- Alternative 4 – Structural Slope Stabilization; and
- Alternative 5 – End Use Restriction, Setback, Berm Placement, and Monitoring and Maintenance.

These mitigation alternatives are similar to those presented in ENGEO's April 24, 2008 report titled "*Discussion of Conceptual Slope Mitigation Options*," however, the proposed end use of the quarry slope and a portion of the quarry floor at the toe of the slope were clarified to be open space, and costs for Alternatives 1 through 4 were revised. Based on ENGEO's revised analysis, it appeared that implementation of any one of Alternatives 1 through 4 would result in a stable quarry slope that would be consistent with SMGB regulations.

ENGEO's November 24, 2008, report presented a new Alternative 5 that contemplated a combination of 1) a deed-restricted open space end use designation for the quarry slope and 100-foot setback area at the toe of the slope, 2) construction of a rock fall catchment structure within the setback area, 3) long-term (30 years) geotechnical and revegetation monitoring of the slope, and 4) periodic maintenance of the slope and catchment structure as needed. It is noted that, in support of Alternative 5, ENGEO specifically refers to the California Geological Survey's (CGS) Special Publication 117A, "*Guidelines for Evaluating and Mitigating Seismic Hazards in California*," (SP-117A) as revised and re-adopted by the SMGB on September 11, 2008. Although it appears that implementation of Alternative 5 would result in a safe industrial end use for a large portion of the quarry floor, it is not compatible with SMGB regulations requiring final cut slopes to be stable.

At its July 9, 2009, regular business meeting, the SMGB moved to accept Alternative 5, and directed the operator to prepare an amended reclamation plan describing how the existing

cut slope will be reclaimed to a stable condition with a factor of safety appropriate for the proposed end use, and to adjust the financial assurance, as appropriate.

Previous Analysis of Proposed Mitigation Alternatives by SMGB and OMR Staff: As noted on numerous occasions, Alternative 5 would result in a safe industrial end use for a large portion of the quarry floor; however, it is not compatible with the legislative intent of SMARA and the SMGB's regulations that require final cut slopes to be stable. As noted above, SMGB regulations state that in all cases, reclamation plans shall specify slope angles flatter than the critical gradient of the type of material involved. As reiterated by ENGEO in their November 24, 2008 report, and in subsequent correspondence received by the SMGB, the '*critical gradient*' is defined as the maximum stable inclination of an unsupported slope under the most adverse conditions that it will likely experience, as determined by current engineering technology. Cut slopes, including final highwalls and quarry faces, shall have a minimum slope stability factor of safety that is suitable for the proposed end use. In other words, the cut slope should be stable as determined by current engineering technology. Current engineering technology indicates that the cut slope is not stable based on completed slope stability factor of safety analyses.

An important issue with respect to the unstable mined cut slope is the safety of nearby petroleum storage tanks and more specifically tank T-1799. Geologic and geotechnical studies undertaken by Dutra and Chevron conclude that tank T-1799 is not threatened or that the threat is very low from the mining-related slope failure. Submitted documents provided by the operator attempted to clarify and provide additional assurances that there is no need to consider the long-term effects on tanks and mention that the only relevant tank is T-1799.

It is noted that, in their July 7, 2009 letter to Chevron, MMI Inc. clarified that the identified "upper shear zone" does indeed extend beneath Tank T-1799, but that they observed no evidence indicating that the recent landslide failure surface also extends beneath the tank. However, given the available information, OMR and SMGB staff remain concerned about the potential impact(s) to tank T-1799, and other existing petroleum storage tanks, as a result of continued deformations on the quarry slope and/or adjacent ridge line.

RECENT ANALYSIS AND DISCUSSION BY SMGB STAFF: Three items require further discussion based on recently received documents and further analysis: 1) communications with the City of Richmond Planning Department, 2) consideration of the SMGBs regulations pertaining to cut slope stability as previously discussed during its July 9, 2009, regular business meeting, and 3) OMR and SMGB staff comments following review of the amended reclamation plan dated November 6, 2009. These items are discussed below.

City of Richmond's Perspective on Proposed Slope Mitigation Alternatives: SMGB staff routinely provides information to the City of Richmond Planning Department (City) regarding surface mining operations within the City's jurisdiction. During the past year,

SMGB staff has discussed the ongoing review of proposed reclamation alternatives at the Richmond (Chevron) Quarry with City staff on several occasions. On March 23, 2009, SMGB staff forwarded an electronic copy of ENGEO's November 24, 2008 Analysis of Slope Mitigation Alternatives, along with related information, to City staff for review and comment. In correspondence dated July 21, 2009, the Director of the Planning and Building Services Department indicated that staff would prefer proposed Alternative 4 (Structural Slope Stabilization) for treating the quarry slope.

Consideration of SMGB Regulations Pertaining to Cut Slope Stability: As presented during the SMGB's regular business meetings held on May 14, 2009 and July 9, 2009, current SMGB regulations (CCR Section 3704(f)) require that all cut slopes, including final highwalls and quarry faces, shall have a minimum slope stability factor of safety (FOS) that is suitable for the proposed end use and conform with the surrounding topography and/or approved end use. With this specific regulation in mind, it is acknowledged that repair of the failed quarry cut slope in order to achieve a suitable slope stability FOS may have significant impacts on the surface mining operation and/or the adjacent property (Chevron's petroleum storage tanks and related infrastructure). As noted above, ENGEO's November 24, 2008 Analysis of Slope Mitigation Alternatives cites SP117A in support of their recommendation for Alternative 5, which involves long term monitoring and hazard mitigation in lieu of slope reclamation.

SP117A provides three general means for natural slopes in which earthquake induced hazards can be treated. These means are:

1. Avoid the Hazard: Where the potential for failure is beyond an acceptable level of safety during the life of the project and not preventable by practical means, the hazard should be avoided. Developments should be built sufficiently far away from the threat that they will not be affected by potential offsite failures. Proposed development areas at or near the base of unstable slopes should be avoided and relocated to areas where stabilization is feasible;
2. Reduce the Hazard to an Acceptable Level: Several techniques can be used to increase the factor of safety to a level that is acceptable to the local permitting agency. The commonly accepted factor of safety for slopes is greater than 1.5 for static and greater than 1.1 for dynamic loads; and,
3. Accommodate the hazard: Where conditions exist that will cause some measurable amount of strain, engineering techniques based on performance can be used to accommodate the stress. Reducing the hazard may not ensure that the project will remain stable indefinitely;

however, the continued success of mitigation often depends on timely inspection, maintenance and ongoing repair.

Current SMGB regulations only recognize approach No. 2 as provided in SP117A to be compliant with SMARA. In other words, SMARA requires that all final reclaimed slopes shall have a minimum slope stability FOS that is suitable for the proposed end use. Furthermore, such slopes should be stable as determined by current engineering technology. Other mitigation means, notably, approach Nos. 1 and 3 as provided in SP117A, are considered by some as applicable, or potentially applicable, for failed or unstable slopes encountered at surface mine sites. Such strategies may incorporate end use restrictions, setbacks, placement of berms, catchment basins, and long-term monitoring and maintenance. Despite these efforts, the subject slope remains in an unstable form, and over time, reclamation of such slopes for future development considerations are passed on to the developer, or other party, not the operator that caused the problem in the first place.

If SP117A approach Nos. 1 and 3 were considered applicable to SMARA, further questions may be raised. For example, would the mine operator realize an unfair advantage since the requirements for reclamation are reduced? Also, would having an avoidance or accommodation mitigation alternative generate an environment where mine operators would use such option as a fallback position, as opposed to mining in a responsible manner so as to avoid creating adverse slope conditions that warrant such consideration? Finally, SP117A approach Nos. 1 and 3 are plainly not reclamation as currently defined in SMARA.

OMR and SMGB Review Comments for November 6, 2009 Amended Reclamation Plan:

An amended reclamation plan, dated November 6, 2009, has been submitted and subsequently reviewed by OMR and SMGB staff. OMR's comments were presented in a memorandum to the SMGB dated January 26, 2010, and are summarized herein.

Overall, the proposed amended reclamation plan is inconsistent with SMARA and the SMGB regulations because 1) no measures to stabilize the unstable cut slope are included, and 2) the reclamation boundary has not been adjusted to include all areas impacted by mining. Additionally, reclamation maps inconsistently depicting the site, and other deficiencies are noted. In order to meet the minimum requirements of SMARA, the amended reclamation plan must be supplemented to fully incorporate the following comments.

Slope Stability: Extensive geologic and geotechnical studies completed for the site, demonstrate that the mined cut slope exceeds the critical gradient and is, by definition, unstable. The amended reclamation plan proposes to leave an unstable cut slope that is inconsistent with the existing approved reclamation plan and the requirements of SMARA and SMGB regulations. Previous comment memorandums from OMR and SMGB staff review comments cite pertinent statute and SMGB regulations that require final mined slopes



to be stable, and summarize geologic and geotechnical studies that demonstrate the mined cut slope exceeds the critical gradient and is unstable.

The amended reclamation plan describes a 100-foot setback at the base of the slope, construction of a rockfall catchment berm, and monitoring and maintenance of the unstable cut slope for 30 years; however, no provisions to stabilize the cut slope are included in the plan. In order to meet the minimum requirements of SMARA, the amended reclamation plan must include reclamation measures that will result in stabilization of the cut slope.

Mining Impacts Outside of the Reclamation Boundary: The proposed amended reclamation plan does not include within the reclamation plan boundary all areas affected by slope failure resulting from the surface mining activities. Impacts of landsliding extend outside of both the current and proposed reclamation boundary, and appear to encroach into the “pre-SMARA” disturbance (Figure 3 Mining and Reclamation Boundary Map). The encroachment outside of the reclamation boundary is a substantial deviation that is inconsistent with the approved reclamation plan. The entire area affected by the landsliding must be incorporated within the reclamation boundary of the amended reclamation plan.

Map Deficiencies: PRC Section 2772(c)(5) requires that a map of the site clearly show topographic details of the site as well as the limits of mining, reclamation, proposed access roads and existing roads on site, and utilities within or adjacent to the mine site. The map provided should include existing and proposed interim and final contours and drainage patterns, and depict existing areas of vegetation and proposed areas of revegetation. In addition, the map should include setbacks from adjacent property boundaries, soil and waste rock stockpiles, erosion control facilities, and existing and proposed structures. The final map(s) should be of readable scale and all figures should be carefully reviewed to ensure all symbols are included in the legend.

The following list provides some examples of items that should be addressed in the figures provided in the Amended Reclamation Plan:

- Analyses by OMR staff indicate that a portion of the cut slope shown as pre-SMARA and excluded from the reclamation boundary was modified during SMARA mining activities. The area in question is directly southeast of and contiguous with the southeastern end of the cut slope. Aerial photographs in ENGEO (2007) clearly show that this area was disturbed after 1976. This and all areas disturbed after January 1, 1976 must be included within the reclamation boundary for the amended reclamation plan.
- The “Mining and Reclamation Boundary Map” presented on Figure 3, shows the “Slope Management Area” beyond the “1981 Mining and Reclamation Boundary” near Chevron’s tank T-1799. The boundary for “Work Area 3” is

outside of the “Slope Management Area” along its northern boundary. The boundary lines should be reviewed for accuracy and should not go outside of the reclamation boundary.

- The cross-section shown on Figure 6, “Catchment and Berm Detail” has no scale and is misleading because it depicts the mined cut slope with a steepness of approximately 2H:1V. Additionally, this section is labeled as C-C’ on Figure 7, but on Figure 6 it is referred to as Section A-A’.
- A symbol for “Proposed Contour” is shown on Figure 7 but the respective elevations are not labeled on the map. On Figure 9, the unlabeled “Proposed Contour” lines are shown on the map but are not referenced on the legend.

Other Deficiencies: CCR section 3503(a)(2) requires stockpiles to be managed to minimize water and wind erosion. The amended reclamation plan should discuss erosion control measures for all stockpiled material at the site. The map(s) included in the amended reclamation plan should clearly depict the location of all erosion control measures necessary to meet the objectives of the reclamation activities.

SMARA section 2772(c)(3) requires that the reclamation plan state initiation and termination dates. The amended reclamation plan indicates that reclamation would be completed in 2040. The reclamation plan should be more specific, for instance, designating December 31, 2040 as the termination date.

EXECUTIVE OFFICER’S FINDINGS: The findings set forth by the Executive Officer are consistent with the deficiencies expressed by OMR and SMGB staff in their review of the amended reclamation plan for the Richmond Quarry. In summary:

- The City of Richmond in correspondence dated July 21, 2009, indicated a preference for proposed Alternative 4 (Structural Slope Stabilization), which is consistent with SMARA and the SMGB’s regulations.
- It is the Executive Officer’s opinion that any reclamation mitigation alternative that does not improve the gross stability of an unstable mined slope should not be considered feasible, and in accordance with SMARA and the SMGB’s regulations.
- The SMGB at its May 14, 2009, regular business meeting heard a presentation defining the difference between avoidance, accommodation and hazard reduction, as it pertains to dealing with natural slopes, and reclamation of cut and fill slopes pursuant to SMARA. Alternative 5 is essentially one of avoidance.

It remains the opinion of the Executive Officer that Alternative 5 cannot be deemed acceptable without first amending the SMGB's regulations, and even then, such amendment would remain inconsistent with the overall intent of SMARA, and thus require a legislative change as well.

CONSIDERATIONS BEFORE THE SMGB: The SMGB has several options for consideration:

- Option No. 1: The SMGB can direct this matter to the Policy and Legislation Committee should the SMGB wish to pursue potential regulatory and possibly legislative change, in order for SMARA to incorporate avoidance and/or accommodation as a viable slope reclamation strategy.

Or,

- Option No. 2: The SMGB can reject the proposed Amended Reclamation Plan for the Richmond (Chevron) Quarry for lack of an acceptable slope mitigation strategy, as it does not meet the current minimum requirements of SMARA and the SMGBs regulations. The SMGB can also direct the operator to prepare an amended reclamation plan for the site that describes how the slope will be reclaimed to a stable condition with a factor of safety appropriate for the proposed end use(s), in accordance with SMARA and the SMGB's regulations, and adjust the financial assurance, as appropriate.

EXECUTIVE OFFICER'S RECOMMENDATION: The Executive Officer is duty bound to provide a recommendation to the SMGB that is consistent with SMARA and the SMGB's regulations. Thus, the Executive Officer recommends that the SMGB reject the amended reclamation plan as proposed, and Alternative 5 as an acceptable slope reclamation strategy, since neither meets the minimum requirements of SMARA and the SMGBs regulations.

The Executive Officer further recommends that the SMGB direct the operator to prepare an amended reclamation plan for the site that describes how the slope will be reclaimed to a stable condition with a factor of safety appropriate for the proposed end use(s), and adjust the financial assurance, as appropriate.

SUGGESTED MOTION LANGUAGE: The SMGB may consider the following motion language:

To accept Option No. 1 – Consider amendment of SMGB's regulation/pursue legislative change:

Mr. Chairman, I move that the SMGB, in light of the evidence presented before the Board today, direct this matter to the Policy and Legislation Committee to pursue potential regulatory and possibly legislative changes, in order for SMARA to incorporate avoidance and/or accommodation as a viable slope reclamation strategy.

To accept Option No. 2 - Reject the proposed amended reclamation plan and Alternative 5, and request an adequate amended reclamation plan and financial assurance adjustment:

Mr. Chairman, I move that the SMGB, in light of the evidence presented before the Board today, reject the currently proposed amended reclamation plan for the Richmond (Chevron) Quarry, which includes Alternative 5, and approve Alternative 1, 2, 3 or 4, or any combination thereof, as adequate to meet the requirements of SMARA and the Board's regulations, and direct the operator to prepare an amended reclamation plan for the site that describes how the slope will be reclaimed to a stable condition with a factor of safety appropriate for the proposed end use(s), and adjust the financial assurance, as appropriate.

Respectfully submitted:

Stephen M. Testa
Executive Officer

EXHIBITS

- A *“Amendment to Reclamation Plan, Dutra Materials, Inc., Richmond (Chevron) Quarry), CA Mine #91-07-0006,”* prepared by LSA Associates, Inc., dated November 6, 2009. (Compact Disc)
- B Letter correspondence from Richard Mitchell, Director of Planning and Building Services with the City of Richmond, dated July 21, 2009.
- C January 26, 2009 Memorandum from OMR to the SMGB containing review comments for the November 6, 2009 Amendment to Reclamation Plan.

